

REMARKS/ARGUMENTS

Applicants respectfully request that the foregoing amendments be made prior to examination of the present application. Claims 1-12 have been amended and Claims 38-77 have been added. Claims 13-37 are canceled. Applicants respectfully submit that no new matter has been added to the application. Claims 1-12 and 38-77 are now pending in this application.

I. Claim Rejections Under 35 U.S.C. § 102

On page 2 of the Office Action, Claims 13-16, 18, 30-33, and 35 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,308,063 to Koistinen (hereinafter "Koistinen"). Claims 13-16, 18, 30-33, and 35 have been canceled rendering their rejection moot. Applicants respectfully request withdrawal of the rejection.

II. Claim Rejections Under U.S.C. § 103

On page 4 of the Office Action, Claims 1-4, 6-11, 19-22, and 24-28 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Koistinen in view of U.S. Patent Application Publication No. 2002/0164992 to Olsen (hereinafter "Olsen"). Claims 19-22 and 24-28 were canceled rendering their rejection moot. Claims 1-4 and 6-11 have been amended. Applicants respectfully submit that Claims 1-4 and 6-11, as amended, are in condition for allowance.

On page 9 of the Office Action, Claims 17 and 34 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Koistinen in view of U.S. Patent No. 6,636,497 to Honkasalo (hereinafter "Honkasalo"). Claims 17 and 34 were canceled rendering their rejection moot.

On page 10 of the Office Action, Claims 5, 12, 23, and 29 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Koistinen and Olsen, and further in view of Honkasalo. Claims 23 and 29 were canceled rendering their rejection moot. Claims 5 and 12 have been amended. Applicants respectfully submit that Claims 5 and 12, as amended, are in condition for allowance.

A. Claim 1

As amended, independent Claim 1 recites, in part:

determining a coding type for a speech signal via a transcoder and rate adaptor unit (TRAU);

determining a set of bits associated with each transport channel of at least two transport channels corresponding to the speech signal via the TRAU;

determining a priority for each set of bits associated with each transport channel via the TRAU; and

inserting into a TRAU frame, via the TRAU, each set of bits according to the determined priority of each set of bits.

Applicants respectfully submit that Koistinen, Olsen, and Honkasalo, alone or in combination, fail to disclose, teach, or suggest each and every element of Claim 1.

- i. Koistinen, Olsen, and Honkasalo fail to disclose “determining a set of bits associated with each transport channel” and “inserting into a TRAU frame ... each set of bits.”

Applicants respectfully submit that Koistinen, Olsen, and Honkasalo fail to disclose, teach, or suggest “determining a set of bits associated with each transport channel of at least two transport channels corresponding to the speech signal via the TRAU” and “inserting into a TRAU frame, via the TRAU, each set of bits according to the determined priority of each set of bits” as recited in independent Claim 1.

On page 4 of the Office Action, the Examiner asserted:

Koistinen teaches determining a set of bits associated with each transport channel of the speech signal (fig. 2, fig. 4 disclose FRAU frames with different bits that is associated with the transport channels), inserting into a TRAU frame the set of bits associated with the transport channel of highest priority (fig. 2, fig. 4 disclose FRAU frames with different bits that is associated with the transport channels) ...

Applicants respectfully disagree. Column 6, lines 14-32 and 50-56 of Koistinen states:

FIG. 2 illustrates the structure of a 16 kbit/s TRAU frame. The structure of the speech frame of FIG. 2 is specified in section 08.60 of the GSM specifications. Bits D1-D260 in octets 4-38 are used for transmitting the actual speech parameters. The bits in the first two octets are coded "0". The bits in question and the first bits (coded "1") in octets 2, 4, 6 ... 36 and 38 are synchronization bits. In accordance with the invention, the bits in question are not transmitted over the ATM connection, since they are not needed on that connection. The last four bits T1 to T4 (stop bits) and spare bits C18-C21 of the TRAU frame in question are not transmitted over the ATM connection either. Furthermore, a flag, i.e. a bit C16, used in the TRAU frame for indicating speech is not transmitted to the ATM connection, because its value can be detected at the receiving end on the basis of the value of a silence descriptor SID flag C13-C14. In FIG. 2, the bits that are transmitted over the ATM connection in accordance with the invention are shown in bold text, and the bits that are excluded are shown in normal text.

...

FIG. 4 illustrates the structure of an 8 kbit/s TRAU frame. In the submultiplexed 8 kbit/s speech frame of FIG. 4, the bits that are transmitted in accordance with the invention over the ATM connection are shown in bold text. It can be detected from FIG. 4 that the bits to be excluded include synchronization bits, for example.

As such, FIGs. 2 and 4 of Koistinen disclose values for various octets of various bits. Koistinen states only that various bits are used for "transmitting the actual speech parameters." Koistinen fails to disclose any relationship between the bits disclosed in FIGs. 2 and 4 and any transport channels. Koistinen also fails to disclose any type of priority of the bits. Accordingly, Koistinen fails to disclose "determining a set of bits associated with each transport channel" and "inserting into a TRAU frame, via the TRAU, each set of bits according to the determined priority of each set of bits" as in Claim 1.

Olsen is directed to a “data routing method for transmitting data between communication platforms.” (Paragraph [0017]). The method includes “predetermining available data types”, “inputting data into a transmission means”, “inputting a data type”, “determining a priority code based on the data type”, “choosing a transmission channel based on the priority code”, and “transmitting the data along the chosen transmission channel.” (See Abstract). However, Olsen fails to disclose a TRAU or a TRAU frame, determining any bits associated with a transport channel, or inserting bits into a TRAU frame according to a determined priority of the bits. Accordingly, Olsen fails to disclose, teach, or suggest “determining a set of bits associated with each transport channel” and “inserting into a TRAU frame, via the TRAU, each set of bits according to the determined priority of each set of bits” as in Claim 1.

Honkasalo is directed to a radio transmitter and method for “scheduling air interface capacity between user services in a radio system” (Abstract). “The method includes defining a nominal service bit rate, a nominal capacity of the service, and an effective coding rate of the service, and scheduling air interface frame capacity between at least two different services.” (Abstract). However, Honkasalo fails to disclose a TRAU or a TRAU frame, determining any bits associated with a transport channel, or inserting bits into a TRAU frame according to a determined priority of the bits. Accordingly, Honkasalo also fails to disclose, teach, or suggest “determining a set of bits associated with each transport channel” and “inserting into a TRAU frame, via the TRAU, each set of bits according to the determined priority of each set of bits” as in Claim 1.

- ii. Koistinen, Olsen, and Honkasalo fail to disclose “determining a coding type for a speech signal” and “determining a priority for each set of bits associated with each transport channel.”

Applicants respectfully submit that Koistinen, Olsen, and Honkasalo fail to disclose, teach, or suggest “determining a coding type for a speech signal via a transcoder and rate adaptor unit (TRAU)” and “determining a priority for each set of bits associated with each transport channel via the TRAU” as recited in independent Claim 1.

On page 4 of the Office Action, the Examiner concedes that “Koistinen does not teach determining a coding type for the speech signal, and a priority for each transport channel.”

However, on page 5 of the Office Action, the Examiner asserts:

Olsen teaches determining a coding type for the speech signal ([0022] discloses having the priority code 72 further determined by a type table 78 in conjunction with the type code 70); determining a priority for each transport channel ([0022] discloses having, depending on the priority code 72, the channel table 72 determine to do one of the group of: (1) use a specific channel; and (2) use the first available channel from a series of specified channels).

Applicants respectfully disagree. Paragraph [0022] of Olsen states:

A narrow embodiment of the inventive apparatus 60 involves having the priority code 72 further determined by a type table 78 in conjunction with the type code 70. Another narrow embodiment of the inventive apparatus 60 involves having, depending on the priority code 72, the channel table 74 determine to do one of the group of: (1) use a specific channel; and (2) use the first available channel from a series of specified channels.

(Emphasis added). Paragraph [0021] of Olsen discloses that an “apparatus 60 includes a type code 70 assigned to the message 62.” As seen in Fig. 4., the “type code 70” appears to indicate the message type not a “coding type for a speech signal” as in Claim 1. Applicants respectfully submit that a “message type” is not equivalent to a “coding type for a speech signal.” As seen above in paragraph [0022], Olsen further discloses that the priority code 72 is determined by a “type table 78.” Applicants respectfully submit that a “type table” is not equivalent to a “TRAU” as recited in Claim 1.

Paragraph [0021] of Olsen further states that “priority code 72 is determined by the type code 70.” As such, the priority code 72 is determined based on the “message type.” As disclosed in paragraph [0022], the channel table 74 determines whether to “use a specific channel” or “use the first available channel” based on the priority code 72. As such, Olsen appears to teach that the priority code 72 is used to determine which channel is used, which is ultimately determined

by the message type. Accordingly, Olsen appears to teach a type table 78 that determines a priority code 72 based on the message type. However, Olsen fails to disclose “determining a priority for each set of bits associated with each transport channel via the TRAU” as recited in Claim 1.

As discussed above, Honkasalo is directed to a radio transmitter and method for “scheduling air interface capacity between user services in a radio system” (Abstract). “The method includes defining a nominal service bit rate, a nominal capacity of the service, and an effective coding rate of the service, and scheduling air interface frame capacity between at least two different services.” (Abstract). However, Honkasalo fails to disclose a TRAU or a TRAU frame, a coding type, or a priority determination for a set of bits. Accordingly, Honkasalo also fails to disclose, teach, or suggest “determining a coding type for a speech signal via a transcoder and rate adaptor unit (TRAU)” and “determining a priority for each set of bits associated with each transport channel via the TRAU” as in Claim 1.

For at least these reasons, Applicants respectfully submit that Koistinen, Olsen, and Honkasalo, alone or in combination, fail to teach each and every element of independent Claim 1. As such, Applicants respectfully submit that Claim 1 is in condition for allowance. Applicants also respectfully submit that Claims 2-8 and 38-43, which depend from Claim 1, are also in condition for allowance.

B. Claim 9

As amended, independent Claim 9 recites, in part:

determining a coding type for a speech signal via a converter;
locating, via the converter, a set of bits corresponding to each transport channel of a plurality of transport channels based on the coding type; and
decoding the plurality of transport channels based on the corresponding set of bits in accordance with the determined coding type.

Applicants respectfully submit that Koistinen, Olsen, and Honkasalo, alone or in combination, fail to disclose, teach, or suggest each and every element of Claim 9.

- i. Koistinen, Olsen, and Honkasalo fail to disclose “locating a set of bits corresponding to each transport channel based on the coding type.”

Applicants respectfully submit that Koistinen, Olsen, and Honkasalo fail to disclose, teach, or suggest “locating, via the converter, a set of bits corresponding to each transport channel of a plurality of transport channels based on the coding type” as recited in independent Claim 9.

On page 4 of the Office Action, the Examiner asserted:

Koistinen teaches locating a set of bits corresponding to each transport channel (fig. 2, fig. 4 disclose FRAU frames with different bits that is associated with the transport channels)

Applicants respectfully disagree. As shown above, FIGs. 2 and 4 of Koistinen disclose values for various octets of various bits. Koistinen states only that various bits are used for “transmitting the actual speech parameters.” Koistinen further discloses a converter that “converts the TRAU frames into a packet”, “removes unnecessary bits included in the TRAU frame”, and error checks the TRAU frame. (See column 4, lines 49-67). However, Koistinen fails to disclose locating, via a converter, a set of bits corresponding to a transport channel. In addition, Koistinen fails to disclose a converter doing anything based on a “coding type.” Accordingly, Koistinen fails to disclose “locating, via the converter, a set of bits corresponding to each transport channel of a plurality of transport channels based on the coding type” as in Claim 9.

As discussed above, Olsen is directed to a “data routing method for transmitting data between communication platforms.” (Paragraph [0017]). The method includes “predetermining available data types”, “inputting data into a transmission means”, “inputting a data type”, “determining a priority code based on the data type”, “choosing a transmission channel based on

the priority code”, and “transmitting the data along the chosen transmission channel.” (See Abstract). However, Olsen fails to disclose a converter or locating a set of bits corresponding to a transport channel based on a coding type. Accordingly, Olsen fails to disclose, teach, or suggest “locating, via the converter, a set of bits corresponding to each transport channel of a plurality of transport channels based on the coding type” as in Claim 9.

Honkasalo is directed to a radio transmitter and method for “scheduling air interface capacity between user services in a radio system” (Abstract). “The method includes defining a nominal service bit rate, a nominal capacity of the service, and an effective coding rate of the service, and scheduling air interface frame capacity between at least two different services.” (Abstract). However, Honkasalo fails to disclose locating a set of bits corresponding to a transport channel based on a coding type. Accordingly, Honkasalo also fails to disclose, teach, or suggest “locating, via the converter, a set of bits corresponding to each transport channel of a plurality of transport channels based on the coding type” as in Claim 9.

- ii. Koistinen, Olsen, and Honkasalo fail to disclose “determining a coding type for a speech signal via a converter.”

Applicants respectfully submit that Koistinen, Olsen, and Honkasalo fail to disclose, teach, or suggest “determining a coding type for a speech signal via a converter” as recited in independent Claim 9.

On page 4 of the Office Action, the Examiner conceded that “Koistinen does not teach determining a coding type for the speech signal.” However, the Examiner further asserted:

Olsen teaches determining a coding type for the speech signal ([0022] discloses having the priority code 72 further determined by a type table 78 in conjunction with the type code 70)

Applicants respectfully disagree. As discussed above, paragraph [0022] of Olsen states:

A narrow embodiment of the inventive apparatus 60 involves having the priority code 72 further determined by a type table 78 in

conjunction with the type code 70. Another narrow embodiment of the inventive apparatus 60 involves having, depending on the priority code 72, the channel table 74 determine to do one of the group of: (1) use a specific channel; and (2) use the first available channel from a series of specified channels.

Paragraph [0021] of Olsen further discloses that an “apparatus 60 includes a type code 70 assigned to the message 62.” As seen in Fig. 4., the “type code 70” appears to indicate the message type not a “coding type for a speech signal”, as in Claim 9. Applicants respectfully submit that a “message type” is not equivalent to a “coding type for a speech signal.” Olsen further discloses that the priority code 72 is determined by a “type table 78.” Applicants respectfully submit that a “type table” is not the same as a “converter” as in Claim 9.

As discussed above, Honkasalo is directed to a radio transmitter and method for “scheduling air interface capacity between user services in a radio system” (Abstract). “The method includes defining a nominal service bit rate, a nominal capacity of the service, and an effective coding rate of the service, and scheduling air interface frame capacity between at least two different services.” (Abstract). However, Honkasalo fails to disclose a converter, a TRAU frame, a coding type, or a priority determination for a set of bits. Accordingly, Honkasalo also fails to disclose, teach, or suggest “determining a coding type for a speech signal via a converter” as in Claim 9.

For at least these reasons, Applicants respectfully submit that Koistinen, Olsen, and Honkasalo, alone or in combination, fail to teach each and every element of independent Claim 9. As such, Applicants respectfully submit that Claim 9 is in condition for allowance. Applicants also respectfully submit that Claims 10-12 and 44-46, which depend from Claim 9, are also in condition for allowance.

IV. New Claims 38-77

Claims 38-77 have been newly added. Support for the newly added claims can be found throughout the originally filed specification and claims (e.g., in paragraphs [0048]-[0073] and

[0076]). Applicants respectfully submit that no new matter has been added to the application. Applicants also respectfully submit that the newly added claims do not necessitate a new search by the Examiner.

Claims 38-43 depend from independent Claim 1, and Claims 44-46 depend from independent Claim 9. As shown above, Claims 1 and 9 are in condition for allowance. Accordingly, Applicants respectfully submit that Claims 38-46 are in condition for allowance based at least on their dependence from Claims 1 and 9.

As discussed above, Koistinen, Olsen, and Honkasalo, alone or in combination, fail to disclose, teach, or suggest the elements of Claim 1 of:

- determining a coding type for a speech signal via a transcoder and rate adaptor unit (TRAU);

- determining a set of bits associated with each transport channel of at least two transport channels corresponding to the speech signal via the TRAU;

- determining a priority for each set of bits associated with each transport channel via the TRAU; and

- inserting into a TRAU frame, via the TRAU, each set of bits according to the determined priority of each set of bits.

Independent Claims 47, 68, and 77 recite similar elements to independent Claim 1. Accordingly, Applicants respectfully submit that independent Claims 47, 68, and 77 and Claims 48-60 and 69-71, which depend from Claims 47 and 68 respectively, are also in condition for allowance.

As also discussed above, Koistinen, Olsen, and Honkasalo, alone or in combination, fail to disclose, teach, or suggest the elements of Claim 9 of “determining a coding type for a speech signal via a converter” and “locating, via the converter, a set of bits corresponding to each transport channel of a plurality of transport channels based on the coding type.” Independent Claims 61 and 72 recite similar elements to independent Claim 9. Accordingly, Applicants

respectfully submit that independent Claims 61 and 72 and Claims 62-67 and 73-76, which depend from Claims 61 and 72 respectively, are also in condition for allowance.

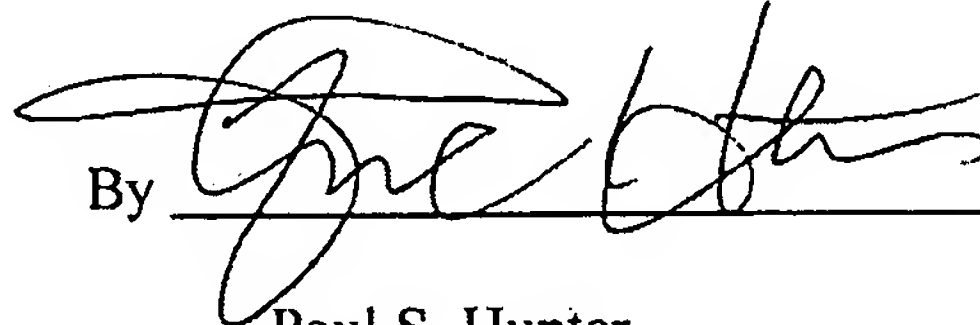
Applicants believe that the present application is in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested. The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by the credit card payment instructions in EFS-Web being incorrect or absent, resulting in a rejected or incorrect credit card transaction, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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FOLEY & LARDNER LLP
Customer Number: 23524
Telephone: (608) 258-4292
Facsimile: (608) 258-4258

By 

Paul S. Hunter
Attorney for Applicant
Registration No. 44,787